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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,946	06/22/2001	Sheel A. Gupte	2006.65384	7703

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GREER, BURNS & CRAIN
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CHICAGO, IL 60606

EXAMINER

PEREZ, ANGELICA

ART UNIT	PAPER NUMBER
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2684

DATE MAILED: 01/04/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/887,946	GUPTE, SHEEL A.	
	Examiner	Art Unit	
	Angelica M. Perez	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 12-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Wilcox (Wilcox et al., Patent No.: 5,649,309).

Regarding claim 9, Wilcox teaches of a wireless mobile communication device enclosure comprising (figure 2, item 200 and column 2, lines 45-47): a main part and flip part joined to permit openings closing of the flip part (figure 2, items 101, e.g., "body" corresponding to a "main part" and item 103, "cover" corresponding to a "flip part"; see column 2, lines 47-49); a hinged connection joining the main part and the flip part to permit the opening and closing of the flip part (figure 3, item 301), the hinged connection including a housing defining a cylindrical opening therein (figure 9, item 325); a leaf spring disposed over the accommodation space (figure 9, item 309), the accommodation space being sufficient to permit deflection of the leaf spring (column 4, lines 17-24); a cam shaft within the housing (figure 3, item 307) disposed deflect the leaf spring at some rotational positions of the cam shaft relative to the housing and to permit the leaf spring to relax in at least two distinct rotational positions of the cam shaft (e.g., "rotational positions" are "open" and "close"; column 4 and 5, lines 61-67 and 1-8, respectively), where the housing forms a separate part that might be inserted into an

opening of one of the main part and the flip part (figure 3, item 317; where the shaft of the separate portion 301 is connected to portion 115 that corresponds to the main body of the device).

Regarding claim 10, Wilcox teaches all the limitations of claim 1. In addition, Wilcox teaches where the accommodation space comprises a recess (figure 9, item 331).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-2, 5-8 and 11-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox in view of Horne (Horne, Tony James; US Patent No.: 5,983,083 A).

Regarding claims 1 and 17, Wilcox teaches of a wireless mobile communication device enclosure comprising (figure 2, item 200 and column 2, lines 45-47): a main part and flip part joined to permit openings closing of the flip part (figure 2, items 101, e.g., "body" corresponding to a "main part" and item 103, "cover" corresponding to a "flip part"; see column 2, lines 47-49); a hinged connection joining the main part and the flip part to permit the opening and closing of the flip part (figure 3, item 301), the hinged

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connection including a housing defining a cylindrical opening therein (figure 9, item 325); a leaf spring disposed over the accommodation space (figure 9, item 309), the accommodation space being sufficient to permit deflection of the leaf spring (column 4, lines 17-24); a cam shaft within the housing (figure 3, item 307) disposed deflect the leaf spring at some rotational positions of the cam shaft relative to the housing and to permit the leaf spring to relax in at least two distinct rotational positions of the cam shaft (e.g., "rotational positions" are "open" and "close"; column 4 and 5, lines 61-67 and 1-8, respectively); and the cam shaft including a ridge extending along a substantial portion of the principal length of the leaf spring (figure 9, items 307 corresponding to the "cam shaft" and item 1107 corresponding to the ridge that deflects the "leaf spring" shown as item 309; where the ridge extends transversally and substantially along a substantial portion of the principal length of the leaf spring).

Wilcox does not teach where the leaf spring having its principal length substantially aligned with the axis of rotation of the cam shaft.

In related art, concerning a hinge structure for foldable radiotelephone, Horne teaches where the leaf spring having its principal length substantially aligned with the axis of rotation of the cam shaft (column 1, lines 45-59 and figures 3, items 52, shaft 54, cam and 70, leaf spring. See also figure 4).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Wilcox's hinge with Horne's spring having its principal length substantially aligned with the axis of rotation of the cam shaft, as taught by Horne.

Regarding claim 2, Wilcox in view of Horne teaches all the limitations of claim 1. In addition, Wilcox teaches where the cam shaft includes: at least two flattened portions on the cam shaft ending in a common ridge portion from the ridge (figure 9, item 1107; e.g., where the “flattened” portions form a protruding common end), the flattened portions and the ridge being aligned with the leaf spring and the accommodation space (figure 9, items 1107, 307, 309 and 327; e.g., the figure shows where the flattened portions and ridge being aligned with the leaf spring and the accommodation space); rotational position of the cam shaft aligning the ridge with the leaf spring by contact with the ridge (e.g., “lobes” describing the “ridge” column 4 and 5, lines 61-67 and 1-8, respectively).

Regarding claim 5, Wilcox in view of Horne teaches all the limitations of claim 2. Wilcox also teaches where the ridge is rounded (figure 9, item 901; where “ridge” is identified as “bump”).

Regarding claim 6, Wilcox in view of Horne teaches all the limitations of claim 1. Wilcox also teaches where the ridge extends over almost an entire length of the leaf spring (figure 9, item 901; where the ridge extends to the sides of the upper part of the leaf spring).

Regarding claim 7, Wilcox in view of Horne teaches all the limitations of claim 2. Wilcox also teaches where the shaft and the housing are plastic (column 7, lines 50-51).

Regarding claim 8, Wilcox teaches of a wireless mobile communication device enclosure comprising (figure 2, item 200 and column 2, lines 45-47): a main part and flip

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part joined to permit openings closing of the flip part (figure 2, items 101, e.g., "body" corresponding to a "main part" and item 103, "cover" corresponding to a "flip part"; see column 2, lines 47-49); a hinged connection joining the main part and the flip part to permit the opening and closing of the flip part (figure 3, item 301), the hinged connection including a housing defining a cylindrical opening therein (figure 9, item 325); a leaf spring disposed over the accommodation space (figure 9, item 309), the accommodation space being sufficient to permit deflection of the leaf spring (column 4, lines 17-24); a cam shaft within the housing (figure 3, item 307) disposed deflect the leaf spring at some rotational positions of the cam shaft relative to the housing and to permit the leaf spring to relax in at least two distinct rotational positions of the cam shaft (e.g., "rotational positions" are "open" and "close"; column 4 and 5, lines 61-67 and 1-8, respectively,; where a portion of the cam shaft extends beyond the housing to join with one of the part and the flip part (figure 3, item 317; where the shaft joins with the main body of the device through portion 115).

Regarding claim 12, Wilcox teaches of a wireless mobile communication device enclosure (figure 2, item 200 and column 2, lines 45-47): a main part and flip part joined to permit opening and closing of the flip part (figure 2, items 101, e.g., "body" corresponding to a "main part" and item 103, "cover" corresponding to a "flip part"; see column 2, lines 47-49); a hinged connection joining the main part and the flip part to permit the opening and closing of the flip part (figure 3, item 301), the hinged connection including, a housing defining a cylindrical opening therein (figure 9, item 325); a shaft closely accommodated with the housing (column 7, lines 50-51); a leaf spring between

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the housing and the shaft (figure 9, item 309 corresponding to the "leaf spring" that is located between the item 115 corresponding to a portion of the "housing", item 321 and item 317 corresponding to the "shaft"), where at least a portion of the shaft is configured to deflect the leaf spring at a first relative rotational position of the shaft and the housing, and to allow the leaf spring to relax at two additional relative rotational positions of the shaft and the housing (e.g., "rotational positions" are "open" and "close"; column 4 and 5, lines 61-67 and 1-8, respectively).

Wilcox does not teach where the leaf spring having its principal length substantially aligned with the axis of rotation of the camshaft.

In related art, concerning a hinge structure for foldable radiotelephone, Horne teaches where the leaf spring having its principal length substantially aligned with the axis of rotation of the cam shaft (column 1, lines 45-59 and figures 3, items 52, shaft 54, cam and 70, leaf spring. See also figure 4).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Wilcox's hinge with Horne's spring having its principal length substantially aligned with the axis of rotation of the cam shaft, as taught by Horne.

Regarding claim 13, Wilcox in view of Horne teaches all the limitations of claim 12. Wilcox further teaches where the housing includes a recess for permitting the leaf spring to deflect, and a shelf formed around a circumference of the recess to hold the leaf spring in place (figure 9, item 331 corresponding to the recess that holds the leaf spring in place).

Regarding claim 14, Wilcox in view of Horne teaches all the limitations of claim 12. Also, Wilcox teaches where the shaft includes a ridge to contact and deflect the leaf spring (figure 9, items 307 corresponding to the "cam shaft" and item 1107 corresponding to the ridge that deflects the "leaf spring" shown as item 309).

Regarding claim 15, Wilcox in view of Horne teaches all the limitations of claim 12. Wilcox also teaches where the ridge extends over the entire length of the leaf spring (figure 9, item 901; where the ridge extends to the sides of the upper part of the leaf spring).

Regarding claim 16, Wilcox in view of Horne teaches all the limitations of claim 12. In addition, Wilcox teaches where a portion of the shaft extends beyond the housing to connect with one of the main part or the flip part (figure 3, item 317; where the shaft joins with the main body of the device through portion 115).

Regarding claim 18, Wilcox teaches all the limitations of claim 17. Wilcox further teaches where the cam shaft is configured to leave the leaf spring completely undeflected at the another predetermined rotational position (e.g., "rotational positions" are "open" and "close"; column 4 and 5, lines 61-67 and 1-8, respectively; however, when the position has been established, the leaf springs returns to the original undeflected position).

5. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox in view of Horne and further in vie of Steinhoff (Steinhoff et al., US Patent No.: 6,088,240)

Regarding claim 3, Wilcox in view of Horne teaches all the limitations of claim 2.

Wilcox in view of Horne does not specifically teach where the cam shaft includes a reduced diameter portion and the flattened portions and the ridge are part of the reduced diameter portion.

In related art concerning a hinged flip communication device, Steinhoff teaches where the cam shaft includes a reduced diameter portion and the flattened portions and the ridge are part of the reduced diameter portion (column 8, lines 27-30; figure 1, item 140 where the diameter with the "protruding corners" corresponding to the flattened portions and the ridge).

It would have been obvious to a one of ordinary skill in the art at the time the invention was made to combine Wilcox in view of Horne hinge with Steinhoff's smaller diameter containing the flattened portions and the ridge in order to provide a faster movement when opening or closing the device.

Regarding claim 4, Wilcox in view of Horne teaches all the limitations of claim 3. Steinhoff further teaches comprising the reduced diameter portion from a remaining larger diameter portion of the cam shaft (column 8, lines 27-30; figure 1, item 140 where the diameter with the "protruding corners" corresponding to the flattened portions and the ridge is smaller than the diameter of the integral shaft cam).

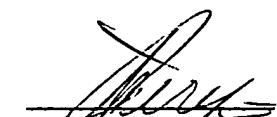
Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 7:00 a.m. - 3:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.



Angelica Perez
(Examiner)



NAY MAUNG
SUPERVISORY PATENT EXAMINER

Art Unit 2684

December 19, 2005